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ABSTRACT

Holistic approaches to the teaching of reading and writing, most notably the Whole Language movement, reject the philosophy that language skills can be taught. Instead, holistic teachers emphasize process, and they structure the students' classroom activities to be rich in language experience. Computers can be used as tools for whole language experiences in reading and writing, based on principles of holistic language instruction. Classroom reading should center on children's literature rather than basal stories, and software of popular children's literature is available. Teacher feedback for writing should be provided during, not after, the writing process. For this, computer-based revision and editing programs are available for a wide variety of word processing software, giving feedback on grammar, usage, style, and organization. The transition from oral language to print should be as natural as possible, favoring guided language experience over direct instruction in subskills. Several computer programs allow children to create their own stories on the computer, then read the stories back to the children using voice synthesis. Writing should culminate in publishing in order for children to develop a sense of authorship. Desktop publishing is a key computer-based application for developing this sense of authorship in children. These are only a few of the ways in which computers can be used in the whole language classroom. (A bibliography of information on computers and whole language, and a list of educational software are appended.) (MM)

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Can Computers Be Used for Whole Language Approaches to Reading and Language Arts?

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Abstract

Holistic approaches to the teaching of reading and writing, most notably the contemporary Whole Language movement, reject the philosophy that language skills can be taught. Instead, holistic teachers emphasize process, and they structure the students' classroom activities to be rich in language experience. This paper discusses eight principles of holistic language instruction and provides examples as to how computers can be used as tools for whole language experiences in reading and writing. Principles discussed include emphasis on children's literature, writing process, natural transition from oral to written language for young children, and student choice of reading material.

Can Computers Be Used for Whole Language Approaches to Reading and Language Arts?

Teachers are reacting to the overuse and misuse of direct instruction and subskill drills by spending increased amounts of classroom time applying holistic approaches to reading and language arts. This movement, whether it be called an integrated language arts or a whole language movement, reflects a healthy concern that children learn language abilities in meaningful contexts that provide motivation for a lifelong love of reading and writing.

Judith Newman (1985) has cautioned that there is no one whole language approach. Instead, the term represents a set of beliefs about how language is acquired, with the corresponding principles that guide teachers in their instruction.

Can teachers use computers for meaningful language instruction, or are we locked into computer-based drill and practice software? This paper suggests some resources for using computers to meet a few of the major themes of contemporary whole language applications (Goodman, 1986; Graves, 1983; Calkins, 1986; Newman, 1985).

Classroom reading should center on children's literature rather than basal stories.

Houghton Mifflin is one of the few software publishers that has used stories from popular children's literature, in its Reading Comprehension Early Reading series. Each disk contains two stories fro beginning readers, each of which is presented page by page on the monitor screen, accompanied by an illustration. Stories include Else Homelund Minarik's "Duck, Baby Sitter," and "And I Mean It, Stanley by Crosby Bonsall, as well as fables and folktales from many cultures.

Children can move a cursor to any word in the story, press RETURN, and the word is pronounced aloud. Interspersed questions are both printed and asked aloud to develop skills such as prediction and pronoun reference. The computer responds aloud to provide a short explanation of the answer to each question. Reading Comprehension Early Reading is unique in its application of voice synthesis to passage level comprehension activities.

Teacher feedback for writing should be provided during, not after, the writing process.

Computer-based revision and editing programs are available for a wide variety of word processing software. These analyze students' writings to help teachers give feedback on such factors as punctuation, grammar, usage, style, and organization. One such program is MECC Editor. Students use the MECC Editor program to analyze their word processor files.

Writing process curricula such as The Write Connection and Writing Workshop provide prewriting, during writing, and postwriting guidance for students. These multi-disk curricula are designed for a wide variety of writing experiences.

Some teachers in the Rochester, New York, area have used the newly revised writing process package The Write Connection to encourage and structure students' written responses to reading. The Write Connection is published at four levels (Grades 1-2, 3-4, 5-6, and 7-8). It is a comprehensive package built around a word processor, including prewriting and revising/editing components. Its major innovation is its prompted writing capability. Lessons are included which present student prompts for structuring dozens of writing experiences, such as writing persuasive paragraphs and narrative paragraphs. Several lessons encourage response to reading, such as book reviews and character descriptions. Teachers can also construct their own lessons and save them on disk, so that students can be given lessons that relate to the specific books they are reading. One teacher, for example, used story grammar theory to structure a series of writing experiences on Charlotte's Web.

For a wealth of creative, writing process ideas for using word processors in the classroom, subscribe to The Writing Notebook, a quarterly publication from Humanities Software. Humanities Software also publishes Write On!, a collection of disks that provide writing activities to be carried out using word processors.

Transition from oral language to print should be as natural as possible, favoring guided language experience over direct instruction in subskills.

Programs such as Talking TextWriter and KidTalk allow children to create their own stories on the computer, then read the stories aloud back to the children using voice synthesis. In Story Machine, children choose from a 40-word vocabulary to create stories which the computer animates in color on the screen.

A key feature of shared book lessons involves children in creating their own versions of the stories they enjoy reading. Explore-A-Story combines reading children's story books with activities that extend reading through writing. Story books accompanying the programs. Children can write their own versions of the stories, then illustrate them using easy-to-do artwork on the disks. Stories and accompanying illustrations can be printed out in color to make books to share with the class, giving children an increased sense of authorship.

The Language Experience Recorder allows students to store their stories on disk and later print them out to make books. The program keeps word lists, with the number of times the student has used each word, and prepares word banks for word recognition activities.

Teachers should use highly predictable stories to enhance children's early reading, emphasizing enjoyment and meaning rather than low-level decoding.

Student Stories is a collection of about 20 on-disk predictable readings. The amusing readings are written in the style of chant stories, for use in beginning readers' choral reading or shared book lessons. Their unique feature is that each teacher can type a list of her students' names and save it on disk. The program will then place the children's names in the stories and print them out for reading. Reading becomes even more personalized and important to the children.

Children should be able to choose their own books and spend in-class time reading.

This was a key lesson arising from the Individualized Reading movement of the 1960's. It has been reborn as teachers apply Whole Language philosophies to middle grades and older students. In a valuable series of studies of school impact on children's recreational reading, Rutgers University's Lesley Mandel Morrow (1982; 1987a; 1987b; Morrow and Weinstein, 1986) has shown that most schools can do a lot more to promote free reading in a systematic fashion. Recreational reading is crucial for development of fluency (e.g., Anderson, Hiebert, Scott & Wilkinson, 1985) and should be at the center of reading instruction for teachers using integrated language arts or whole language approaches.

Computer databases of books can help children make informed decisions about the books they choose to read. Some teachers have the children themselves make a database of the books they read. BookBrain administers a quick interest inventory to students, then suggests books that the students might enjoy. Each suggested book has an on-disk annotation that arouses interest.

Teachers in the Rochester, New York, area have used word processor and database management programs to create two large databases of creative, whole language activities designed for use with children's literature or young adult fiction. Teachers can access the database by using specific book titles, authors' names, genres, or topics. For each book, the database has a summary, teaching ideas, and meaningful student-ready activities that can be printed in hard copy to be used with recreational reading or individualized reading curricula. The database is designed to grow continuously as students who read the books add their reactions.

Computers can also monitor student individualized reading activities. Electronic Bookshelf tests students on comprehension of the books they've read. After reading a book, the student is administered a multiple choice comprehension quiz. A management system keeps track of the number of books read and of student scores. The system includes ready-made tests on over 2000 book titles. Teachers can use a utility subprogram to enter questions for books of their own choice.

The tests are very short and low-level, and the simple

management system does not lend itself to diagnostic use of the test results. Certainly teachers would want to encourage more meaningful responses to readings on the part of their students, such as journal writing and peer discussion groups. But Electronic Bookshelf provides a motivational component to the recreational reading program.

Writing should culminate in publishing for children to develop a sense of authorship.

Desktop publishing is a key computer-based application for developing the sense of authorship in students. Programs such as Springboard Publisher are highly flexible, and easier to use than earlier desktop publishing programs. They allow students to input graphics and create headlines.

In the classroom, desktop publishing allows teachers to create functional learning environments that promote active involvement in all the language arts. The Quill project (Rubin & Bruce, 1984) demonstrated the effectiveness of teacher-student collaboration to create classroom newspapers using word processing software. Contemporary software allows teachers to go beyond the capabilities of word processing to create newspaper page layouts that combine text and graphics in multi-column formats.

At Letchworth, NY, Central School, fifth and sixth graders in the Reading Room create their own newspapers centered around popular themes such as hunting or sports. The classes break up the subject into categories, and each student reporter begins

work on his or her own assignment, conducting interviews or carrying out library research. A recent issue on hunting included articles on equipment, regulations, and game management. The initial categorization activity provides the opportunity for discussion of newspaper formats as students plan the layout, deciding which introductory articles will appear at the beginning of each page.

Students work in pairs throughout the writing process. Teacher-led workshops help students formulate their story plans by filling out a wh-question matrix. Rough drafts are usually written on paper to save computer time. Students have been trained in basic keyboarding skills, so they can enter the stories into the computers themselves. If one is still not finished typing by the end of the reading period, the teacher or aide offers to finish the typing after class.

Final group editing is carried out using an editing checklist and computer-based spelling and style analyzers. The project provides motivational opportunities to deal with paragraph structure and to discuss the format of actual newspapers. Since stories are short, students are forced to condense their content, streamlining the final product so that it fits the tight space requirements.

Students also plan the incorporation of graphics to match the story content. Formulation of brief headlines that are appropriate to the story is one of their most challenging tasks.

While word processing and desktop publishing can be used creatively to help children publish, some teachers have also been

using telecommunications to broaden the audience for children's publication. Using computers equipped with modems, children can send their writings over telephone lines across vast distances. The Special Interest Group for Microcomputers in Reading of the International Reading Association (c/o Department of Elementary & Secondary Education & Reading, SUNY-Geneseo, Geneseo, NY 14454) serves as a clearinghouse of information for teachers from various parts of the world interested in using telecommunications to exchange student writings.

Instruction should be carried out in thematic units that integrate varied aspects of the total curriculum.

Computer-based instruction must be integrated into the regular curriculum if it is to be meaningful. Anderson-Inman (1987) addresses this issue in an article which offers practical advice for teachers. In a recent presentation at an International Reading Association convention, Modla (1987) described a fine example of such integration, a thematic unit that incorporated computer-based learning into the study of medieval times.

Modla incorporated a wide variety of computer-based activities in the unit. Students created party invitations and posters using Print Shop, illustrated reports for the bulletin board using the fancy fonts of MultiScribe, made crossword puzzles using Crossword Magic, and created several databases of medieval information.

Learning is social. Teachers should structure cooperative learning environments.

In a meta-analysis of 100 research studies on classroom learning, Johnson, Johnson, and Maruyama (1983) found that cooperative learning is superior to competitive learning. Balajthy (1988) surveyed research on computer-based learning that suggested that the new learning environment created by the introduction of computers into the classroom seems to almost automatically increase the amount of student cooperation in classroom learning tasks, though he warned that teacher encouragement and modeling is vital to successful encouragement of these new attitudes toward learning.

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FOR MORE INFORMATION ON COMPUTERS AND WHOLE LANGUAGE:

The following chapters in Ernest Balajthy, Microcomputers in Reading and Language Arts (1986; Englewood Cliffs, NJ: Prentice Hall):

Ch. 10: Word Processing for Writing Instruction

Ch. 11: Word Processing Activities

Ch. 12: Other Activities for Reading and Writing

Ch. 16: Typing

Ch. 21: Printed Materials and Computers

The following chapters in Ernest Balajthy, Computers and Reading: Lessons from the Past and the Technologies of the Future (1988; Englewood Cliffs, NJ: Prentice Hall):

Ch. 1: Integrating Reading and Writing

Ch. 3: Learning from Text

Ch. 14, 15: Natural Language Research and Applications

"Keyboarding and the Language Arts." Ernest Balajthy. The Reading Teacher, October, 1987.

"Desktop Publishing in the Classroom." Ernest Balajthy & Gordon Link. The Reading Teacher, February, 1988.

"Voice Synthesis." Ernest Balajthy. The Reading Teacher, October, 1988.

"Recreational Reading and Computers." Ernest Balajthy. The Reading Teacher, November, 1988.

"Can Computers Be Used for Whole Language Approaches to Reading and Language Arts?" Ernest Balajthy. The Reading Teacher, January, 1989.

"Desktop Publishing: What's New for 1989?" Ernest Balajthy

& Gordon Link. The Reading Teacher, February, 1989.

"Local Area Networks for Writing Process Instruction."
Ernest Balajthy & Helen Aron. The Reading Teacher,
March, 1989.

Software

BookBrain, Oryx Press, 2214 North Central at Encanto, Phoenix, AZ 85004

Crossword Magic, Scott Foresman, 1900 East Lake Ave., Glenview, IL 60025

Electronic Bookshelf, Electronic Bookshelf Inc., Route 9, Box 64, Frankfort, IN 46041

Explore-A-Story, D. C. Heath/Collamore Educational Publishing, 125 Spring Street, Lexington, MA 02173

GSWorks, StyleWare, Inc., 5250 Gulfton, Suite 2E, Houston, TX 77081

KidTalk, First Byte Software, 2845 Temple Street, Long Beach, CA 90806

Language Experience Recorder

Teacher Support Software, PO Box 7125, Gainesville, FL 32605

MECC Editor, MECC (Minnesota Educational Computing Corporation), 3490 Lexington Avenue North, St. Paul, MN 55126

MultiScribe, Scholastic Software, PO Box 7501, 2931 E. McCarty St., Jefferson City, MO 65102

Newsroom, Springboard Software, 7808 Creekridge Circle, Minneapolis, MN 55435

Print Magic, Epyx, PO Box 5367, Redwood City, CA 94063

Print Shop, Broderbund, 1938 Fourth St., San Rafael, CA 94901

Reading Comprehension Early Reading, Houghton Mifflin Educational Software Division, PO Box 683, Hanover, NH 03755

Springboard Publisher, Springboard Software

Story Machine, Spinnaker Software, 215 First Street, Cambridge, MA 02142

Student Stories, MECC

Talking Textwriter, Scholastic Software

Write Connection, Scott Foresman

Write On!, Humanities Software, PO Box 590727, San Francisco, CA 94159

Writing Workshop, Milliken, Box 21579, St. Louis, MO 63132

Write On!, Humanities Software